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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,619	12/22/1999	NOBUYUKI AIHARA	500.38034CX1.	5168

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EXAMINER

LAXTON, GARY L

ART UNIT	PAPER NUMBER
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2838

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/469,619

Applicant(s)

AIHARA ET AL.

Examiner

Gary L. Laxton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-14 and 16-21 is/are allowed.
- 6) ☒ Claim(s) 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faberman et al in combination Brand et al.

Faberman et al disclose a power supply (figure 1); an AC/DC converter (D1A) which receives AC power (E1A) and converts it to none other than DC voltage (E2A); the AC/DC converter includes a control circuit to control an output voltage from the AC/DC converter to be equal to a predetermined DC voltage higher than an effective value of the AC input voltage (col. 6 lines 30-40; e.g. AC in = 120volts and voltage at E2A = 330volts; thus, D1A must be a controlled boost rectifier circuit.); a DC/DC converter (T1A and D2A) which receives the DC power from the AC/DC converter and controls a level of an output voltage to be equal to a level of a voltage to be used by a load (E5A, E6A, E7A); a DC converter (33) which is connected to an input of the DC/DC converter; and a DC power storage means (31) which supplies electric power to the

DC/DC converter through the DC converter (33) via (E4A); wherein the DC converter is bi-directional (figure 1; e.g. "bi-directional power supply") for charging and discharging the DC storage means (31); wherein the DC converter controls and output voltage to be boosted over a voltage of the DC power storage means (33) while supplying electric power to the DC/DC converter (T1A and D2A); wherein the DC converter (33) includes a first converter (S3B, S4B) having an AC terminal (figure 2; T1B:C) and a DC terminal (figure 2; C1B, C2B) connected to the input of the DC/DC converter (see figure 1); a transformer (figure 2; T1B:A, T1B:B, T1B:C) having a high voltage side (figure 2; T1B:C) and a low voltage side (figure 2; T1B:A, T1B:B); and a second converter (figure 2; S1B, S2B) for connecting to the battery (B1B) wherein the as shown in figure 2, the transformer isolates the battery from the rest of the power supply circuit. However, Faberman et al does not disclose power factor correcting and parallel connecting a plurality of power supplies with one another.

Brand et al teach the power supply employs power factor correction (Abstract) and parallel connecting plural power supplies with one another figures 8-10.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ power factor correction techniques in order to maximize circuit efficiency, as is well known in the art and desired, that power factor correction provides; and furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect additional DC/DC converters in series with the other converters in order to provide clean regulated voltage to the load and to parallel connect either the AC/DC converters or the DC/DC converters or both in order to provide for redundancy in case of converter failure as taught by Brand et al.

Allowable Subject Matter

4. Claims 4-14 and 16-21 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Concerning claims 4, 5-14, 16-19 and 21. The primary reason for allowance of the claims is that prior art fails to disclose or suggest, in combination with the claimed subject matter, a power supply wherein a DC converter controls its output to be boosted over a DC power storage means and to be substantially equal to the output voltage of the DC power of the AC/DC converter.

Concerning claim 20. The primary reason for allowance of the claim is that prior art fails to disclose or suggest, in combination with the claimed subject matter, a power supply wherein a DC converter controls an output of the DC converter to be substantially equal to the output voltage of the DC power of the AC/DC converter.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (703) 305-7039. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703)308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7724 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


5/30/03
MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

GLL
May 30, 2003